

#### IV.2.2 INITIAL PARAMETER VALUES FOR MODELS

This Section contains recommendations for obtaining initial estimates of the parameter values for the snow, soil moisture accounting and channel system models for headwater areas.

Some of the parameters can be estimated from information on the climatic and physiographic characteristics of the area while the initial values of other parameters are based on an analysis of the streamflow data.

These recommendations are primarily intended for the case of determining initial parameter values when no nearby headwater areas with similar characteristics have been previously calibrated. When nearby basins have already been calibrated, many of the initial parameter estimates for the snow and soil moisture accounting models can be obtained from the final parameter values for the nearby basins. An initial estimate of the temporal distribution function, which indicates the response of the channel system to runoff, should be determined for each individual basin since each basin has a unique temporal distribution function. If there are differences in physiographic conditions between the basin being calibrated and nearby basins that were previously calibrated then these differences should be taken into account before using the parameters from nearby basins as initial estimates. This Section contains some suggestions for accounting for such differences.

The selection of initial parameter values is only one step in the overall calibration process. However it is an important step because good initial estimates of the parameter values will reduce the number of adjustments that are needed to obtain an optimum parameter set and simplifying the calibration process.

Section IV.2.2-SNOW-17 [[Hyperlink](#)] contains guidelines for determining initial parameter values for the SNOW-17 snow accumulation and ablation model.